

Bureau of Land Management

Analysis and Response of Public Comments Received

on the

Wright Area Coal Final Environmental Impact Statement

March 2011

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INTRODUCTION

The *Wright Area Coal Draft EIS (DEIS)* was made available for public comment from June 26 through August 26, 2009. All comments received on the DEIS were addressed in the final EIS (FEIS). The Environmental Protection Agency (EPA) announced the availability of the FEIS in the *Federal Register* on July 30, 2010; parties on the distribution list were sent copies of the final EIS at that time. The comment period for the final EIS ended on August 30, 2010. As explained on the first page of the FEIS, the public review period was open for 30 days after the EPA's Notice of Availability published in the *Federal Register*. The final EIS was also made available in pdf form and was posted to the Bureau of Land Management (BLM) Wyoming public website.

Letters and emails were received from:

- Campbell County (Wyoming) Board of Commissioners
- Dorsey & Whitney LLP
- Leslie Glustrom
- Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club
- Michael Strawn
- WildEarth Guardians, Sierra Club, and Defenders of Wildlife

Two of the individual letters, Dorsey and Whitney LLP and Campbell County Board of Commissioners, included clarifying information, or were supportive of the proposed action. This information is acknowledged and will be considered in any decisions that are made based on the FEIS.

The remaining four letters raised a variety of issues and concerns. BLM specialists reviewed all comments received on the FEIS to determine if they identified any significant new circumstances or information relevant to environmental concerns that would warrant BLM to prepare a supplemental EIS. Most comments were raised during the public review of the DEIS, were similar to comments received on the draft DEIS, and were addressed in the FEIS. The issues and comments raised are summarized below, along with BLM's response.

Public comments received by the BLM on the Wright Area Final EIS are available in their entirety at

http://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/PRB_Coal.html

Public comments and the formal hearing transcript are also on file and can be reviewed at the BLM Wyoming High Plains District Office in Casper.

ISSUES/CONCERNS RAISED

Purpose and Need

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- BLM's interpretation of the purpose and need of this federal action unlawfully forecloses consideration of reasonable alternatives.

Response

Please see our response to your comment on purpose and need in the Wright DEIS. As described throughout chapter 1, the purpose of this EIS is to analyze and disclose the potential effects to the natural and human environment from the proposed leasing of six maintenance tracts of federal coal in the Wright area of the Wyoming Powder River Basin (PRB). Mining operators in the Wyoming PRB applied to lease tracts of federal coal in order to have sufficient coal reserves to continue to operate their existing mines (FEIS at 1-17). Although leasing these tracts would not authorize mining operations on those lands, the EIS evaluates the potential impacts of mining the tracts because mining is a logical consequence of issuing a lease for a maintenance tract of federal coal (FEIS at 1-18). The EIS presents BLM's analysis of environmental impacts under the authority of the National Environmental Policy Act (NEPA) and associated rule and guidelines.

The FEIS explains the extent of BLM's decision-making authority to lease coal on federal lands and our mission under various mineral leasing laws that is to encourage the development of domestic coal reserves and reduction of US dependence on foreign sources of energy.

The EIS is not intended to be an environmental analysis of the numerous technologies that are capable of producing electricity. As stated throughout the Wright area EIS, the document was prepared pursuant to the NEPA and other applicable regulations and statutes to address possible environmental and socioeconomic impacts that could result from the Wright area coal lease applications.

As stated in chapter 4, ongoing scientific research is working to identify the potential impacts of greenhouse gases (GHG) on global climate. Our analysis recognizes that the addition of non-carbon fueled electric generation sources could reduce future GHG emissions. Further, the addition of alternate sources of electric generation would potentially help to conserve carbon-based fuels and provide a broader portfolio of electric sources. However, the environmental effects and impacts associated with the wide variety of renewable electric generation technologies are well beyond the scope of this EIS. Individual projects associated with alternative electric generation technologies would be evaluated separately under their own NEPA process as each project is proposed and would be analyzed on their own merit. In order for an alternative energy project to come to fruition, there must first be a valid proponent to propose, support, and fund the project.

BLM does have wide discretion in determining the extent and identification of lands to consider offering in response to a coal lease application. The Wright FEIS addresses a full range of alternatives to the lease by application (LBA) submitted by the applicant. That range includes, on one end, an alternative that represents all lands that include coal reserves comparable to those reserves applied for and which may be efficiently recovered with the LBA. This alternative also includes reserves which may enhance competitive interest in the tract and which could be bypassed if not leased. On the other end of the range is the No Action Alternative.

Climate Change/Greenhouse Gases

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- ▶ BLM must analyze the environmental impacts resulting from direct greenhouse gas emissions from the mining process.
- ▶ BLM must consider measures to mitigate direct greenhouse gas emissions from the mining process.
- ▶ BLM must inventory projected indirect greenhouse gas emissions from coal burning and fully disclose climate change impacts.
- ▶ BLM continues to fail to consider mitigation measures or alternatives related to indirect greenhouse gas emissions from coal burning

WildEarth Guardians, Sierra Club, and Defenders of Wildlife

- ▶ The BLM continues to refuse to make any effort to address the global warming impacts of the Wright area LBAs, ... and continues to make excuses for avoiding taking any responsibility for addressing the environmental impacts of its actions.

Michael Strawn

- ▶ Please disclose the greenhouse gas emissions from burning the coal to be mined...and consider ways to mitigate the global warming impacts of such emissions.
- ▶ The EIS should address the long-term consequences (effects) of the CO₂ that will be produced from burning such a large amount of coal.

Response

The EIS recognizes and discusses the issues of GHG and climate change in depth. The EIS estimates direct emission of GHG because of continuing operations at the Wright area mines. The EIS also estimates the potential GHG volumes resulting from the assumed use of this coal at dispersed electric generation facilities. Additionally, the EIS states that policies regulating specific levels of significance have not yet been established for GHG emissions. Given the state

of the science, it is not possible to associate specific actions with the specific global impacts such as potential climate effects. Since there are no tools available to quantify incremental climate changes associated with these GHG emissions, the analysis cannot reach conclusions as to the extent or significance of the emissions on the global climate.

Section 3.18.2 in chapter 3 of the FEIS contains our site-specific analysis regarding GHG emissions. It contains estimates of GHG emissions resulting from the combined mine operations. The site-specific impacts analyzed in this EIS are based on the assumption that if an LBA tract is offered for competitive lease, a lease would be issued and mining would be permitted. We further assume that the applicant would be the lessee, and the lease would be permitted as an extension of their current mining operations. In chapter 3, we estimated the change to GHG emissions under each alternative LBA configuration, including the No Action Alternative. The EIS estimates direct emissions of GHGs because of continued operations of the applicant mines and the proposed leasing actions. The EIS also estimates potential GHG volumes resulting from the assumed use of this coal at dispersed electric generation facilities.

The contribution of the site-specific alternatives to cumulative effects on the environment is evaluated in chapter 4. To do this, we assume that coal mining will proceed in accordance with permit conditions. We further assume that this coal will be sold to coal users in response to forecasts of demand for this coal. Historically these users have been electric utilities in the United States, although there is potential for sales outside the US. The coal market is open and competitive, and users can buy from the most cost-effective suppliers that meet their needs.

In section 4.2.14 in the FEIS, we estimated the amount of GHG emissions that could be attributed to coal production as a result of leasing the proposed LBAs, as well as from the forecast coal production from all coal mines in the Wyoming PRB. We assumed that all PRB coal was used for coal fired electric generation as part of the total US use of coal for electric generation. This gives an upper estimate of the GHG resulting from use of the coal that would be produced from the proposed LBAs and for forecast total PRB coal production. The estimate was done by relating the portion of coal produced in the Wyoming PRB to national steam coal totals, and then applying that ratio to the total emission of GHG estimated in the US as a result of coal fired electric generation.

The potential impacts of climate change represent the cumulative aggregation of all worldwide GHG emissions. The EIS provides a meaningful context and measure of the relative significance of coal use from the proposed LBAs and overall projected PRB coal production on total GHG emissions. The FEIS recognizes the effects of historic warming on the western US (FEIS at page 4-133 and 134).

*We have assumed that existing land and resource conditions within the analysis area have been and will continue to be affected by climate change under all alternatives including the No Action Alternative. Existing climate prediction models are not at a scale sufficient to estimate potential impacts of climate change within the analysis area. We have referenced available national and regional data, most recent being the report, **The Effects of Climate Change on Agriculture, Land Resources, Water Resources and Biodiversity in the United States** (US Climate Change Science Program 2008). A recent (June 2009) report defined the relative degree of climate change effects that could be experienced in the future in the various regions of the US*

(Karl, Melillo, and Peterson 2009). The report uses two scenarios to bracket potential climate effects and is broken into regions that divide the US. The Wyoming PRB is in the Great Plains region and is characterized by strong seasonal climate variations. Historically the area has been subject to prolonged drought followed by wetter conditions. Average temperature increases have been predicted in the region with the greatest changes being in the winter such that commonly very cold days would become less common and warmer wetter weather more common. Under the higher heat trapping emission scenario temperatures are projected to increase over the next 100 years more so than under the lower heat trapping emission scenario. The milder winters and longer growing season is expected to favor larger numbers of insects earlier and longer into the season. The change in climate is expected to cause a shift in wild plant and animal distributions favoring those species that are better suited for the warmer wetter climates that both the lower emission and higher emission scenarios predict for the PRB. With increasing precipitation, soil erosion in drainages and sheet flow across the land surface is expected to increase.

The climate change and global warming analysis in section 4.2.14.1 of the EIS identifies methane as a GHG emission. The EIS describes the potential release of methane as a direct result of mining and other activities in the PRB. Section 3.18.2 of the EIS estimates the GHG emissions resulting from specific operations at the Wright area mines as projected under the proposed actions and alternatives over the life of the lease. The projections reflect general mining activity in the PRB region and specific estimates derived for the Wright area mines.

At surface mines, methane is released into the atmosphere as the coal is exposed and loaded in small diluted amounts. Flaring is not feasible with surface mining operations since flaring requires the gas to be concentrated in quantities sufficient to burn, as might be possible in an underground mine. We did recognize that large volumes of methane have been put to beneficial use as a result of CBNG (coalbed natural gas) recovery in advance of mining, and that by the time the coal is mined, methane in commercial quantities has been depleted.

A number of broad alternatives such as mitigation funds, taxes, and specific conditions exist that could be applied to any coal mining operator. However, revenues from coal leases are dispersed in a fixed formula specified in the Mineral Leasing Act. The Department of the Interior (DOI) has no discretion in this dispersion. Specific lease conditions apply only to that lease and are not a workable mechanism to regulate mining operations. These proposals would be programmatic or legislative in nature, and while considered, are beyond the scope and authority of the coal leasing actions addressed in this EIS. Coal mining companies do not burn coal and so do not purchase carbon offsets for burning coal. Facilities that burn coal would be required to purchase carbon offsets if the state that those facilities are in, or the Environmental Protection Agency (EPA), requires such offsets to be purchased. In the US, such offsets are not required, although companies, individuals, and governments can purchase carbon offsets through voluntary programs. The applicant mines in the Wright area already voluntarily use electric powered heavy equipment, such as haul trucks and draglines, whenever possible as part of their air quality mitigation plans. All other vehicle standards are regulated by the Department of Transportation through which the EPA is taking measures to reduce greenhouse gas emissions from vehicles nationwide. Please see the following website for more information on vehicle emission standards: <http://www.epa.gov/oms/climate/regulations.htm>.

Visibility, Air Quality, Ozone

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- ▶ BLM should not lease the tracts unless air quality impacts will be minimized and air quality standards will be met.

WildEarth Guardians, Sierra Club, and Defenders of Wildlife

- ▶ It is unclear how the BLM analyzed and assessed the direct, indirect and cumulative impacts to the short term nitrogen dioxide National Ambient Air Quality Standards (NAAQS).
- ▶ BLM must address any potentially significant ozone impacts in the context of the EPA's final NAAQS.
- ▶ How does BLM intend to address cumulative air quality violations?

Leslie Glustrom

- ▶ Need to highlight visibility impacts.

Response

The BLM does not permit, nor authorize, mining operations and neither has the authority to regulate mining activities nor mitigate air quality impacts. As discussed in detail in section 1.3 of the EIS, the Wyoming Department of Environmental Quality (WDEQ) is authorized by the Secretary of the Interior to regulate surface coal mining operations and surface effects of mining on federal and nonfederal lands within Wyoming.

The FEIS identifies both site-specific (i.e. specific to each Wright area mine) and cumulative impacts to air quality. This is accomplished by including monitoring data for a variety of regulated air pollutants, as well as predictive models that estimate pollutant concentrations and other air quality parameters based on emission and climate models. The analysis discloses actual and modeled air quality impacts to the public, BLM, and regulators.

Air pollution is controlled by state and federal air quality regulations and standards established under the federal Clean Air Act (CAA) amendments administered by EPA. The EPA established the National Ambient Air Quality Standards (NAAQS) under the authority of the CAA. The Wyoming Ambient Air Quality Standard (WAAQS) for the PM₁₀ annual, the SO_x annual, and 24-hour levels are more stringent than the NAAQS and are enforced by WDEQ/Air Quality Department (AQD). State implementation plans are in place to ensure that proposed actions like coal mining comply with all associated air quality regulations and criteria. WDEQ/AQD issues permits to mine coal under the authority delegated to them by the EPA under the CAA. In Wyoming, mines in the PRB are permitted under the CAA as regulated emission sources. Permits issued by the WDEQ identify mitigation measures that the permittee must implement in

order to comply with the permit. These measures, currently in place at the Wright area mines and typically in place at other PRB mines, are described in section 3.4.2 of the EIS. The WDEQ/AQD is authorized to condition permits as necessary for mitigation and will not permit activity that does not comply with the WAAQS.

As disclosed in the EIS, large surface coal mines in the PRB have the potential to become particulate emission sources contributing to air quality degradation. Section 3.4.2.3 of the EIS states that the WDEQ/AQD requires mines in the Wyoming PRB to collect air quality data. The eastern PRB is one of the most intensely monitored areas in the world for air quality. As explained throughout the EIS, the WDEQ/AQD has, by statute, the authority and responsibility to require mitigation for air quality impacts.

The FEIS was revised to include predictive model results for PM_{2.5} (fine particulate) concentrations (section 4.2.3 of the FEIS). WDEQ/AQD would establish the monitoring requirements for PM_{2.5} as a part of air quality permits to comply with EPA and state air quality standards and plans.

Ozone is included in the EIS discussion regarding NO_x emissions since NO_x is one of the main components involved in the formation of ground level ozone. As previously discussed, EPA is the agency chiefly responsible for national air quality regulations and authorities concerning ozone, CO₂, and the development of national standards.

Ozone monitoring is not required by WDEQ at the PRB coal mines; however, levels have been monitored by WDEQ/AQD at its ambient air quality monitoring sites in the PRB since 2001. An exceedance of the O₃ 8-hour standard occurs if the fourth highest daily maximum value is above the level of the standard. On January 6, 2010, EPA proposed to strengthen the NAAQS for ground-level ozone. EPA is proposing to strengthen the 8-hour "primary" ozone standard to a level within the range of 0.060-0.070 ppm (parts per million). EPA is considering comments received on the proposed monitoring requirements and plans to issue a final rule in coordination with the final ozone standards.

Table 3-9 shows that no exceedances of the O₃ standard have occurred at the monitoring sites closest to the Wright area mines when evaluated under the standard in place at the time the values were recorded. For the PRB region, exceedances of the current standard (75 ppm) have been recorded at Thunder Basin, and some high values (greater than 65 ppm) have been recorded at South Campbell County and Devils Tower stations in recent years. Therefore, there is potential for this area to become designated non-attainment if a new lower standard is promulgated. Promulgation of a revised ozone standard has been delayed. The standard may now be issued sometime in 2011. If a new standard were issued, it would immediately become effective. Wyoming may adopt the new standard into its rules, but until it does, there would be two standards in effect (state and federal). Compliance will be determined in accordance with the more stringent standard.

An area could be deemed "non-attainment" for ozone after the new standard is issued, if air monitoring results in the area show that the three-year average of the 4th highest daily max. 8-hour average exceeds the standard. This determination requires three years of monitoring data,

documented exceedances of the standard, and the state designating a geographic area around the monitored area. EPA has to approve this geographic area, and the state would then prepare a SIP (state implementation plan) outlining how the area is to be brought back into compliance. The resulting SIP would outline regulatory measures that would pertain to all air quality permits in that area.

The comment submits the statement that ozone levels in the PRB are trending upward. BLM cannot make that assertion based on the limited data that are currently available, both temporarily and spatially, for the PRB (for example, the highest recorded value occurred in 2003; seven years in the past). Additional data from these two sites and preferably a larger ozone air quality monitoring network that covers more of the basin are needed before any trends can be clearly defined. Based on data collected at WDEQ's Thunder Basin National Grassland ozone monitoring site from 2005 through 2009, the background ozone level is estimated as 134 $\mu\text{g}/\text{m}^3$ (0.069 ppm). This monitor is operated by the Forest Service and data are reported to EPA's national database (AQS), accessible through Air Explorer on the web at <http://www.epa.gov/airexplorer/>.

Visibility is addressed in the air quality sections (3.4.4.1 and 4.2.3). The discussion in chapter 4 addresses cumulative visibility effects. The EIS evaluates prevention of significant deterioration (PSD) in chapters 3 and 4. Section 169 of the CAA addresses visibility protection. On June 15, 2005, the EPA issued final amendments to its July 1999 regional haze rule. These amendments apply to the provisions of the regional haze rule that require emission controls known as best available retrofit technology, or BART, for industrial facilities emitting air pollutants that reduce visibility. The nearest class I PSD areas to the general analysis area for this LBA are Wind Cave National Park (about 100 miles east), and the Badlands wilderness area (about 150 miles east). There are also five class II PSD areas 80 to 100 miles away from the LBA application general analysis area; all others are at least 100 miles away (table 3-10 of the FEIS). This EIS uses two tools to evaluate visibility impacts.

Regional modeling is used to estimate and disclose the change in the number of days that a change of 10% or more in extinction would occur by 2020, in relation to a baseline. The table referenced in the comment (FEIS, p 4-51) portrays the results of this predictive modeling, estimating change to regional visibility over a 16-year period, based on all reasonably foreseeable projected regional activity over that 16-year period. Additionally, on site-monitoring at class I areas is included to show actual measured changes in visibility over the period of record (1989 to 2005). While monitoring results show annual variability in visibility impairment at two sites, the trend is stable overall with some slight lessening. PRB surface mines have not been subject to permitting under the PSD regulations because those mine emissions that are subject to PSD applicability levels fall below regulatory thresholds.

Preferred Alternative is not Properly Evaluated

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- BLM must properly analyze the impacts of its preferred alternative.

Response

As noted in a response above, BLM has considerable discretion in determining the size, configuration and location of federal coal tracts to offer for competitive lease, in the public interest. Alternative 2 recognizes the BLM's discretion to act in the public interest to configure tracts that will enhance competitive potential, to assure that tracts contain enough coal to allow market demands to be met, while not being so large as to encourage speculative coal leasing, to prevent less desirable but marketable coal from being omitted from a tract, and to allow that leased coal reserves are efficiently recovered without waste or unnecessary impact.

Alternative 2 provides that BLM would delineate a tract from within a study area defined by BLM. The study area is defined under that alternative to be the largest area that both includes the application area plus any additional lands that BLM decides to consider to provide for the public interest considerations described above.

The impact analysis for Alternative 2 assumes that the entire study area is leased; however, BLM would retain the discretion to delineate a lease tract that includes all or any portion of the lands in the study area. Under Alternative 2, BLM determines any tract to be offered for competitive sale based on the FEIS, as well as comments on fair market value, maximum economic recovery and consideration of the public interest.

Cumulative Impact Not Specific to Alternatives

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- The cumulative impact section of the EIS must be revised to compare environmental impacts of the various alternatives.

Response

Pages 4-9 to 4-14 of the FEIS contain an explanation of how the cumulative impacts of all reasonably foreseeable development activity are related to the alternatives analyzed for each LBA. The proposed development of coal at the Wright area mines is factored into the cumulative analysis by determining the Wright area mines contribution to total regional production, with regional production based on demand forecasts. The cumulative impact analysis assumes that coal mining will proceed in accordance with permit conditions. This gives a "worst case" type of impact analysis as far as the Wright area mines contribution to cumulative impact, because if the action alternatives are not chosen, some of the cumulative production would shift from Wright area mines to other PRB producers, or to producers outside the PRB.

Reclamation

Leslie Glustrom

- Failure to provide mine-specific reclamation information and modify the EIS accordingly.

- ▶ BLM must adequately analyze current and projected reclamation status prior to leasing new tracts.
- ▶ Bond release is the ultimate measure of reclamation success and bond release status must be analyzed in the EIS.
- ▶ BLM must consider mitigation measures and alternatives related to reclamation.

Response

The Surface Mining Control and Reclamation Act (SMCRA) is the federal law regulating surface coal mining. BLM has no authority under SMCRA to prescribe or enforce the reclamation of coal-mined lands in Wyoming. The WDEQ, Land Quality Division (LQD) permits, regulates, and monitors coal mining and reclamation. Three acts regulate coal mining and reclamation in Wyoming: 1) Wyoming's Open Cut Reclamation Act of 1969; 2) Wyoming State Environmental Quality Act of 1973; and, 3) the federal act, SMCRA. The state of Wyoming has the overall authority and enforces these federal and state acts through the WDEQ/LQD. Under the federal coal leasing program, BLM has primary authority to make decisions regarding leasing the federal coal resources, ensuring receipt of fair market value, achieving maximum economic recovery of the coal resource, and evaluating coal tracts so those offered for lease are in the public interest (FEIS section 1.3).

Table 4-2 in the FEIS (pages 4-11 and 12) summarizes a detailed review of actual and projected disturbance and reclamation through 2020. This review reflects the total disturbance (including active mining and mined but unreclaimed, as well as disturbed but unavailable for reclamation (occupied by long-term structures or facilities) as well as areas permanently reclaimed. The trend is that the acreage including active mining and mined but unreclaimed is expected to increase slowly, less than one percent per year, as is the acreage of land disturbed but unavailable for reclamation. The rate of permanent reclamation will be more rapid (about 4% per year). The ratio of total land reclamation to total land disturbance was around 30% in 2003, and is expected to be 45% by 2010, and approaching 60% by 2020. As of 2008, the actual ratio of total land reclamation to total land disturbance was about 45% (29,100 acres permanently reclaimed out of a total disturbance of 64,100 acres) for the Wyoming PRB mines. Of the total unreclaimed disturbance, about 23,000 acres were unavailable for reclamation (stockpiles, facilities, and sediment control) and 35,000 acres were in active mining operations (working pits and haul roads). The 2003 and 2008 acreages are based on WDEQ publications and definitions and are reported annually as a WDEQ permit requirement. The projections for cumulative impact analysis use the same WDEQ definitions and parameters.

Post-mining vegetation composition, such as brush land, is specified in the mine permit approval done by WDEQ and OSM in coordination with affected surface owners and state and federal agencies with management or regulatory responsibility involved in the permit approval. The WDEQ statutory and regulatory requirements outline strict parameters for coal mine reclamation procedures, species composition, final land surface contour, and environmental sustainability. The SMCRA requires sufficient bonding to cover anticipated reclamation costs.

When mining is permitted, the WDEQ/LQD sets the bond amount for reclamation of all disturbed lands, and the operator posts an acceptable bonding instrument for this amount with the state of Wyoming. The reclamation bond is not released until a minimum of 10 years have elapsed from the date of final seeding, and the WDEQ/LQD has determined that all reclamation verifications have occurred.

A difference exists between lands that are in various stages of reclamation and those that have been reclaimed and released from final bonding requirements. There are several phases of bond release mine operators may apply for from replacing the backfill, to the approved contour, to placing topsoil, and permanent seeding. Final bond release on reclaimed lands indicates that the reclamation meeting permit standards has been in place for at least 10 years.

Until final bond release, the WDEQ/LQD monitors monthly all lands within the mining permit boundary, and these lands must pass requirements set by state law. The WDEQ does not require mines to complete final bond release as long as contemporaneous reclamation is proceeding at the required rate and to the required standards set by state and federal laws. A percentage assessment of lands that have been released from final bonding requirements is not an accurate assessment of contemporaneous reclamation.

The mines submit reclamation plans for approval by the WDEQ during the permitting process. These plans are based on the individual mining company's mining progression. The mining progression reflects the estimate of disturbance necessary to achieve production estimates over the next five years specifically and the remainder of the coal reserve in more general terms. Delaying leasing would not change reclamation planning or progress, as the WDEQ can only permit lands where the permittee has the right to mine. The WDEQ approves or rejects these plans based on the mining progression of the individual mine and the space needed for long-term facilities, sedimentation reservoirs, haul roads, diversions, and topsoil stockpiles. The reclamation plan is evaluated against the individual mine progression by the WDEQ to ensure reclamation is directly following the mining extraction process.

In the interim period between initial reclamation and final bond release, condition and status of the lands are monitored by the WDEQ/LQD, and that information is publically available from their Cheyenne office. Reclaimed lands, regardless of the bond release status, are used by wildlife and often grazed by livestock (regulated and monitored by the WDEQ). The Wright area mines' annual reports include information on stock and wildlife grazing areas and noxious weed control. OSM, as part of their oversight of coal mine permitting, publish and assess data on reclamation.

The comments suggest that BLM stipulate leases to have development based on reclamation success. As stated frequently in the FEIS, OSM and DEQ are the agencies with authority to assess and regulate reclamation. Additionally, BLM's management decisions would time and size tract offerings to conserve the coal resource, discourage speculation, and assure maximum economic recovery. The timing and sizing of offered tracts affects the pace and scale of mining by managing leasing to not outpace or underpace coal demand as moderated by competition and regulatory requirements and costs.

Mountain Plover

WildEarth Guardians, Sierra Club, and Defenders of Wildlife

- Impacts to mountain plover.

Response

The BLM recognizes that on June 29, 2010, the US Fish and Wildlife Service (FWS) reinstated a December 5, 2002 proposed rule (67 FR 72396) to list the mountain plover as a threatened species. The Wright area EIS mountain plover analysis is included in the biological evaluation (appendix H) which was provided to the FWS, the US Forest Service (FS), and the Wyoming Game and Fish Department (WGFD) for their review.

Through the section 7 consultation process, the FWS consults with agencies on how proposed projects may affect listed species. BLM consulted and coordinated with the FWS concerning section 7 including effects on mountain plover. Prior to completing a record of decision (ROD) for LBAs addressed in this EIS, the FWS must be consulted on the action, pursuant to section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended. BLM will consider and address the FWS consultation in that decision and include the FWS response as an appendix to the ROD.

In coordination with the WDEQ, the USFWS will develop and prescribe wildlife mitigation measures as a component of the mining permit authorization process. Requirements to protect wildlife during mining operations are addressed as part of the existing mining and reclamation plan for each individual mine.

Use of the Lease-by-Application Process

Leslie Glustrom

- Use of the lease by application process.

Response

Leasing to maintain production at existing mines using the lease by application process (43CFR3425) is the practice in the Powder River Basin Coal Production Region. This has been the practice since the region was decertified in 1990. Decertification recognized the region as a mature coal production region where the proper leasing mechanism was production maintenance leasing in response to identified needs of operating mines to replace reserves as available leased reserves were depleted. Decertification does not mean that the region is not a significant national coal producing region. Management of coal leasing in the Powder River Basin Coal Production Region by production maintenance leasing has been an issue first raised in comments on the South Gillette Area Coal DEIS, and the issue was presented to the Powder River Basin Regional Coal Team (RCT) at the team's meeting in November 2009. In November

2009, a petition was made to the Secretary of Interior and BLM Director to recertify the Powder River Basin Coal Production Region. In January 2011, this petition was denied. The Powder River Regional Coal Team meetings are public and provide an opportunity for public comment and statements. You are welcome to present, in person or in writing, to the team at any future meeting. The meetings are published in the Federal Register and a press release is posted on the BLM web site.

Groundwater Impact

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- ▶ BLM should not lease new coal tracts without first ensuring compliance with SMCRA's hydrologic balance protection requirements.
- ▶ BLM continues to fail to consider mitigation for groundwater impacts.

Response

There are a number of specific studies under SMCRA and Wyoming law that would be done and would bear on the approval of a permit to mine any lands that might be leased in response to the Wright area LBAs. At that time, the specific plan to develop the LBA would be known. A cumulative hydrologic impact assessment (CHIA) would be developed by the WDEQ/LQD to look at how mining the LBA, along with any other already approved mining, would affect groundwater. The CHIA considers recharge contribution. In addition, a system of wells to monitor groundwater would be specified. The management of surface water flows during mining, as well as the restoration of surface water flow systems post mining, would also be specified in any mining permit to develop the LBA, if leased.

The FEIS includes a thorough evaluation of water resources in section 3.5 and 4.2.4. Additionally, there is a cumulative water modeling study, completed by BLM as part of the Powder River Basin Coal Review, to provide further information on how surface and groundwater resources have been and would be affected by regional development activities. This report, completed in December 2009, can be found on the BLM Wyoming web site at http://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/PRB_Coal/prbdocs.html. As noted throughout the EIS, SMCRA and Wyoming state law requires that the surface coal mine operator provide the owner of the affected water right with water of equivalent quantity and quality. Necessary mitigation can be better identified in response to a specific permit application where the certainty and timing of mining is prescribed, and site-specific monitoring is available.

Readability

Leslie Glustrom

- ▶ Readability.

Response

BLM understands your continuing critique of the “denseness” of the EIS. To improve the readability, we prepared a comprehensive executive summary to condense and highlight the results of the analyses. We have also provided technical evaluation appendices in order to improve readability. Please use the Table of Contents to help guide and focus your examination of the EIS. We strive to balance the benefits of brevity and the need to address all of the issues.

Compliance with the Mineral Leasing Act and Federal Coal Leasing Amendments Act

Powder River Basin Resource Council, Center for Biological Diversity, and Sierra Club

- ▶ BLM needs to ensure compliance with the Mineral Lasing Act and the Federal Coal Leasing Amendments Act.

Response

Coal lease applications are adjudicated by BLM for completeness and applicant qualifications prior to accepting an application as complete. Since coal leases are offered competitively, and a prospective lessee is not known until BLM determines that the high bid meets or exceeds fair market value, the prospective lessee cannot be identified in the NEPA analysis. After the sale and prior to issuing a lease to the successful high bidder, the qualifications of that prospective lessee are reviewed against all of the requirements that must be met in order to hold a federal coal lease, as well as compliance with acreage limitations. The Department of Justice participates in this review to assure compliance with antitrust laws.

Undocumented Claims on Solar Variability and Climate Change

Leslie Glustrom

- ▶ Undocumented claims on solar variability and climate change.

Response

*The referenced discussion in the FEIS is not drawing a conclusion about the relative significance of solar variability on climate. The EIS notes that solar variability **may** play a role, but draws no conclusion of the significance. In fact the rest of the sentence states, “ though the magnitude of the influence of increased sun activity is not well understood.”*

Incomplete Figure Legends

Leslie Glustrom

- ▶ Incomplete figure legends.

Response

Golden eagles are addressed in section 3.10.4 of the FEIS. Raptor and golden eagle data are clearly depicted in figures 3-32, 3-33, 3-34, 3-35, 3-36, and 3-37 of the final EIS. All information regarding golden eagles is included in the final EIS analysis in chapter 3.

As noted in your comment, coal unsuitability criteria 11 and 12 are primarily directed toward eagle nesting, roosts, and concentration areas. Appendix B addresses the inventory and findings for all of the coal unsuitability criteria (43 CFR 3461.5). These are summarized for the lands considered for leasing for each of the Wright area LBAs (FEIS, pages B-1 through B-18).

Failure to Acknowledge Suitability Criteria

Leslie Glustrom

- Failure to acknowledge suitability criteria.

Response

Appendix B addresses the inventory and findings for all of the coal unsuitability criteria (43 CFR 3461.5). These are summarized for the lands considered for leasing for each of the Wright area LBAs (FEIS, pages B-1 through B-18).

Uncertain CO₂ Calculation Methodologies

Leslie Glustrom

- Uncertain CO₂ calculation methodologies.

Response

Estimates of future levels of CO₂ produced by the assumed burning of PRB coal to generate electricity were made in two ways. One method, the method used as the basis for the figures in table 4-37 (page 4-138 of the FEIS), used factors derived from laboratory analysis and average PRB coal Btu content and the relationship of Btu to CO₂ (212.7 pounds of CO₂ per million Btu) as reported by the US Department of Energy in 1994 (FEIS page 4-136). A second estimation of CO₂ was derived by proportioning PRB coal production to domestic totals and relating that to total CO₂ emissions from coal electric power generation (FEIS page 4-137).

Provide US Mercury Emissions – not Global

Leslie Glustrom

- Provide US mercury emissions – not global.

Response

The FEIS includes a complete discussion of coal combustion by products, including mercury. The discussion does identify US emissions, and discusses them in a global context. The basis for this approach is explained in the FEIS on page 4-152 and in summary results from the fact that atmospheric mercury can travel thousands of miles before deposition.

Increased Surveys for Ute Ladies' Tresses

Leslie Glustrom

- Increased surveys for Ute ladies' tresses.

Response

Appendix G of the EIS (biological assessment) contains a detailed analyses regarding Ute ladies' tresses. The Wright area mines have conducted multiple surveys for this species over multiple years according to the guidelines that were written and provided by FWS. That agency developed these guidelines in concert with professional biologists, botanists, and ecologists knowledgeable about this species.

BLM prepared and provided the Wright area EIS, biological assessment, and biological evaluation to the FWS and FS for their review and has improved and revised these documents based on their reviews. The FWS provided written concurrence for leasing the South Hilight Field coal tract pursuant to section 7(a)(2) of the ESAct of 1973, as amended.

Need for Public Review of Biological Opinion and Final Consultation with FWS

Leslie Glustrom

- Need for public review of biological opinion and final consultation with FWS.

Response

The FWS is responsible for the administration of the ESA. It is the mandate and responsibility of that agency to provide guidance to federal agencies on how to avoid adverse impacts to protected species and habitats. Through the section 7 process, the FWS consults with agencies on how proposed projects may affect listed species. All federal agencies have a responsibility under section 7(a)(1) of the ESA to conserve federally listed threatened and endangered species.

BLM is partnered with FWS in fulfilling our section 7 consultation obligations and responsibilities. BLM will continue to coordinate and consult with the FWS on listed species to ensure that our projects neither adversely affect nor jeopardize threatened and endangered species. For more information on the FWS section 7 process, please contact the FWS or visit their website at www.fws.gov.

Irretrievable Loss of Easily Accessible Coal

Leslie Glustrom

- Irretrievable loss of easily accessible coal

Response

The section identifying irreversible and irretrievable commitments of resources (pages 3-327 and 328 of the FEIS describes those resources or values permanently lost due to mining impacts that are not restored through reclamation, restoration, protection, and other mitigation actions.

Accessibility of a given coal resource is situational; that is, it is a function of mining cost, quality, marketability, and the regulatory structure in place. At present, PRB coal competes well in the steam coal market, and as discussed below, is expected to be included in the electric generation mix of fuels and technologies, at least through 2035.

The BLM leases federal coal to private coal companies that, in the case of the PRB mine operators, supply coal primarily as fuel used to generate electricity for the American people. The demand for electricity in the US is still rising annually. Other energy sources for electric power have been and continue to be developed but not to the extent to replace coal as a fuel for electrical generation. There is not enough alternative energy sources developed at this time to fill the gap that would be left if all coal was removed as a fuel source for electrical generation and saved for the future. The most recent energy projections by the Energy Information Administration to the year 2035 show that although renewable energy production increases, coal use is still expected.

Table of Contents, Page Numbers, and Titles for Comment Letters

Leslie Glustrom

- Table of contents and page numbers for the comment letters.
- Titles for comments.

Response

We appreciate that the approach to fully publishing, in the FEIS, all comments received on the DEIS. Publishing individual response to each substantive comment can make it difficult to relate comments by theme. Please note that this analysis and response of public comments document has a paginated table of contents and has attempted to group comments by theme and consolidate the response to those comments.

REFERENCES

United States Climate Change Science Program.

2008 *The Effects of Climate Change on Agriculture, Land Resources, Water Resources and Biodiversity in the United States.*

Karl, Thomas R., Jerry M. Melillo, and Thomas C. Peterson.

2009 *Global Climate Change Impacts in the United States.* Cambridge University Press.